WISE Pathways
Women in Sustainable Employment

Building awareness of careers in construction, energy, and manufacturing for women.
Computer/Information Technology (IT) Industry
What is the Computer/IT Industry?

- The United States is the largest tech market in the world, representing 31% of the total, or approximately $1.5 trillion for 2018.
- The vast majority of technology spending stems from purchases made by corporate or government entities. A smaller portion comes from household spending, including home-based businesses.
- Traditional categories of hardware, software and services account for 53% of the total. Telecom services, accounts for 30%. The remaining 17% covers various emerging technologies that either don’t fit into one of the traditional buckets or span multiple categories.

*From CompTIA: https://www.comptia.org/resources/it-industry-trends-analysis*
Facts About the Computer/IT Industry

• Tech industry employment includes technical positions, such as software developers or network administrators, as well as non-technical positions, such as sales, marketing, and HR. (44%)

• The other component of the tech workforce consists of the technology professionals working outside of the tech industry, such as healthcare, finance, media, or government.

• In 2017, nearly 5.4 million individuals worked as technology professionals across the U.S. economy.

*From CompTIA: https://www.comptia.org/resources/it-industry-trends-analysis
Computer/IT Top Five Careers

- Computer User Support Specialist (median salary: $25.39 hour)
- Computer Operator (median salary: $21.28 hour)
- Computer Programmer (median salary: $39.54 hour)
- Web Developer (median salary: $32.69 hour)
- Network and Computer System Administrator (median salary: $38.99 hour)

*Source: O*NET 2018
Computer User Support Specialist: What do you do?

• Also called *Help Desk Technicians*
• Pay attention to customers’ descriptions of their computer problems
• Ask customers questions to properly diagnose the problem
• Walk customers through the recommended problem-solving steps
Computer Support Specialist: What do you do?

• Set up or repair computer equipment and related devices
• Train users to work with new computer hardware or software, such as printers, word-processing software, and email
• Provide other team members and managers in the organization with information about what gives customers the most trouble and about other concerns customers have
Computer Operator: What do you do?

- Oversee the operation of computer hardware systems, including coordinating and scheduling the use of computer terminals and networks to ensure efficient use.
- Monitor the system for equipment failure or errors in performance.
- Respond to program error messages by finding and correcting problems or terminating the program.
Computer Operator: What do you do?

• Operate spreadsheet programs and other types of software to load and manipulate data and to produce reports
• Supervise and train peripheral equipment operators and computer operator trainees
• Help programmers and systems analysts test and debug new programs
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Computer Programmer: What do you do?

• Write, analyze, review, and rewrite programs
• Correct errors by making appropriate changes and rechecking the program to ensure that the desired results are produced
• Write, update, and maintain computer programs or software packages to handle specific jobs
• Conduct trial runs of programs and software applications to be sure they will produce the desired information and that the instructions are correct
Computer Programmer: What do you do?

- Consult with and assist computer operators or system analysts to define and resolve problems in running computer programs
- Write or contribute to instructions or manuals to guide end users
- Train subordinates in programming and program coding
- Develop websites
Web Developer
What do you do?

• Meet with clients or management to discuss the needs and design of a website
• Create and test applications for a website
• Write code for the website, using programming languages such as HTML or XML
• Work with other team members to determine what information the site will contain
• Work with graphics and other designers to determine the website’s layout
Web Developer: What do you do?

- Integrate graphics, audio, and video into the website
- Monitor website traffic
- Build particular types of websites, such as ecommerce, news, or gaming sites, to fit clients’ needs
Network and Computer System Administrator: What do you do?

- Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system
- Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability
Network and Computer System Administrator: What do you do?

- Monitor and test website performance to ensure websites operate correctly and without interruption
- Assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software
- Supervise computer user support specialists and computer network support specialists
- Administer network security measures
Computer/IT Industry

Education/Credential Requirements

• Required: High school diploma or GED
• Computer User Support Specialist: computer classes; associate degree desirable
• Computer Operator: associate or bachelor degree desirable
• Computer Programmer: bachelor degree desirable; certifications for specific products may be required
• Web Developer: associate degree requirement most common; bachelor degree desirable for specialized positions
• Network & Computer System Administrator: some college required; associate or bachelor degree desirable; certification(s) desirable
Resources

Help Desk Institute: https://www.thinkhdi.com/

Association for Computing Machinery: https://www.acm.org/


Technology Services Industry Association: https://www.tsia.com/

CompTIA: https://www.comptia.org/
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